



US009636012B2

(12) **United States Patent**
Cech et al.

(10) **Patent No.:** **US 9,636,012 B2**

(45) **Date of Patent:** **May 2, 2017**

(54) **OPHTHALMIC LENS ASSEMBLIES AND METHODS OF ASSEMBLY AND USE**

(56) **References Cited**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **14/865,090**

(22) Filed: **Sep. 25, 2015**

(65) **Prior Publication Data**

US 2016/0089022 A1 Mar. 31, 2016

Related U.S. Application Data

(60) Provisional application No. 62/056,083, filed on Sep. 26, 2014.

(51) **Int. Cl.**

A61B 3/10 (2006.01)

A61B 3/117 (2006.01)

A61B 3/125 (2006.01)

G02B 5/09 (2006.01)

A61B 19/02 (2006.01)

(52) **U.S. Cl.**

CPC **A61B 3/117** (2013.01); **A61B 3/125** (2013.01); **G02B 5/09** (2013.01); **A61B 2019/022** (2013.01); **A61B 2019/0242** (2013.01); **A61B 2562/12** (2013.01)

(58) **Field of Classification Search**

CPC **A61B 3/102**; **A61B 3/13**; **A61B 3/00**

USPC **351/219**, **220**, **221**, **246**, **205**, **200**, **216**

See application file for complete search history.

Search Report pertaining to Application No. PCT/US2015/052192 dated Jan. 12, 2016.

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ABSTRACT

Ophthalmic lens assemblies and methods of assembly and use may include a lens assembly including a lens element and a protective cover. The lens element includes a contact lens surface and a faceted optical body including a distal portion and a faceted portion including one or more mirror facets to form a TIR activity pathway. The protective cover includes a contact aperture shaped to receive the contact lens surface, a grip portion, and a facet housing portion including an interior surface. The contact aperture of the protective cover is stretch-fit about a periphery of the contact lens surface to maintain a proximal-side fluid seal. The grip portion of the protective cover is stretch-fit about the distal portion of the lens element to maintain a distal-side fluid seal. One or more TIR-inducing air gaps are defined by the facet housing portion between the interior surface and the mirror facets.

24 Claims, 4 Drawing Sheets

